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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,701	07/09/2007	Dietmar Lerche	1033415-000002	2957

21839 7590 03/16/2010
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EXAMINER	
HENSON, MISCHITA L	

ART UNIT	PAPER NUMBER
2857	

NOTIFICATION DATE	DELIVERY MODE
03/16/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	**Application No.**	**Applicant(s)**	
	10/591,701	LERCHE ET AL.	
	Examiner	**Art Unit**	
	Mi'schita' Henson	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _17 December 2009_.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-17,19-26 and 28-35_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-17, 19-26 and 28-35_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _09 July 2007_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to the amendment filed December 17, 2009. Claims 1-17 and 19-25 have been amended. Claims 18 and 27 have been cancelled. Claims 28-35 are new. Claims 1-17, 19-26 and 28-35 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 11, 2009 has been entered.

Claim Objections

2. Claims1, 4 and 11 are objected to because of the following informalities:

Claim 1 line 5 recites "sample, comprising", Examiner suggests --sample, the method comprising--

Claim 4 line 3 recites "the hindrance function", Examiner suggests --the concentration-dependent hindrance function--

Claim 11 line 2 recites "unit, and a spectrometric", Examiner suggests

--unit; and

a spectrometric--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-10, 12-14, 16-17, 19-26, 28, 32 and 34-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, because it includes the limitation “calculating extinction profiles $E_T(t, r)$ by finding a log of a ratio $I_O(t, r)/ I_T(t, r)$” in step (b). A prior limitation in step (a) recites determining $I_T(t, r)$ ***and/or*** $I_s(t, r)$ thereby providing a conditional limitation that can be met by _either_ $I_T(t, r)$ _or_ $I_S(t, r)$. Therefore, in conditions where $I_S(t, r)$ is determined rather than $I_T(t, r)$, the limitation “calculating extinction profiles $E_T(t, r)$ by finding a log of a ratio $I_O(t, r)/ I_T(t, r)$” renders the claim indefinite.

Claim 10 recites the limitation "the control" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 recites the limitations “different cuvettes”, "the measurement task", “the optical path length” and “the materials” in lines 2-3. There is insufficient antecedent basis for these limitations in the claim. Further, lines 2-3 recite “wherein different cuvettes matched to the measurement task and/or the dispersion sample with respect to the optical path length and the materials can be used", which attempts to further limit the "cuvettes matched to the measurement task and/or the dispersion sample" of the claim from which it depends, however, the claim from which it depends does not recite

"cuvettes matched to the measurement task and/or the dispersion sample". Further still, it is unclear what Applicant intends by "and the materials can be used". For example, what are the materials used for? One of ordinary skill would not be able to ascertain the meets and bounds of the claim, therefore these limitations render the claim indefinite.

Claim 13 recites the limitation "wherein radiation sources of different monochromatic wavelengths, whose radiation intensity $I_o(t, r)$ can be varied", which attempts to further limit the "radiation sources of different monochromatic wavelengths" of the claim from which it depends, however, the claim from which it depends does not recite "radiation sources of different monochromatic wavelengths, whose radiation intensity $I_o(t, r)$ can be varied". One of ordinary skill would not be able to ascertain the meets and bounds of the claim, therefore this limitation renders the claim indefinite.

Claim 14 recites the limitation "wherein a measurement range can be controlled by a thermostat", which attempts to further limit the "measurement range" of the claim from which it depends, however, the claim from which it depends does not recite "a measurement range". One of ordinary skill would not be able to ascertain the meets and bounds of the claim, therefore this limitation renders the claim indefinite.

Claim 16 recites the limitation "the gravitational field" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 19 is rejected under 35 U.S.C. 112, second paragraph, because it includes the limitation "comprising calculating an extinction profile $E_T(t, r)$ by finding a log of a ratio $I_O(t, r)/ I_T(t, r)$". Claim 19 depends from claim 29 and claim 29 recites detecting $I_T(t,$

r) ***and/or*** $I_s(t, r)$ thereby providing a conditional limitation that can be met by *either* $I_T(t, r)$ *or* $I_S(t, r)$. Therefore, in conditions where $I_S(t, r)$ is determined rather than $I_T(t, r)$, the limitation "comprising calculating an extinction profile $E_T(t, r)$ by finding a log of a ratio $I_O(t, r)/ I_T(t, r)$" renders the claim indefinite.

Regarding claim 32, the term "substantially" in the claim is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Therefore, the limitation "over substantially the entire length of the sample" is rendered indefinite.

Claim 34 is rejected under 35 U.S.C. 112, second paragraph, because it includes the limitation "calculating an extinction profile $E_T(t, r)$ of the sample as a function of the sample position r and time t, by finding a log of a ratio $I_O(t, r)/ I_T(t, r)$". Claim 34 depends from claim 29 and claim 29 recites detecting $I_T(t, r)$ ***and/or*** $I_s(t, r)$ thereby providing a conditional limitation that can be met by *either* $I_T(t, r)$ *or* $I_S(t, r)$. Therefore, in conditions where $I_S(t, r)$ is determined rather than $I_T(t, r)$, the limitation "comprising calculating an extinction profile $E_T(t, r)$ by finding a log of a ratio $I_O(t, r)/ I_T(t, r)$" renders the claim indefinite.

Claims 2-9, 17, 20-26, 28 and 35 inherit the limitation(s) of the claim(s) from which they depend.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-10, 17, 21-26 and 28 are rejected under 35 U.S.C. 101 because the claimed invention is neither tied to a machine or apparatus, nor does it perform a transformation. As currently presented, the method steps in claims 1-10, 17, 21-26 and 28 need not be performed by a specific machine.

Based on recent Court decisions, it has been held that a §101 process must (1) be tied to another statutory class (a particular machine or apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. Thus, to qualify as a §101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example, by ***identifying the apparatus that accomplishes the method steps***, or positively recite the subject matter that is being transformed, for example, by identifying the material that is being changed to a different state.

As such, claim 1 only recites a method that includes steps that could be purely mental and the claim does not in any way tie the process to another statutory class nor does the claim transform an article to a different state or thing. Such claims are therefore non-statutory under 35 U.S.C. 101.

Claims 2-10, 17, 21-26 and 28 do not remedy the deficiencies of the claims from which they depend, with respect to 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 11 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Alsmeyer et al. in US Patent 5,638,172.

Regarding claim 11, Alsmeyer et al. teaches:

A device for an automatic determination of a physical, technical method and/or colloidal chemistry parameter (see “measuring physical and analytical properties…is well established in the art”, column 1 lines 23-25; see also Spectrophotometric apparatus, column 1 line 55-56), the device comprising:

a sample receptacle unit (see sample container, column 2 lines 51-52), and a spectrometric measurement device (see “Spectrophotometric apparatus…and radiation source”, column 1 line 55-56 and column 5 lines 9-15) with a source producing monochromatic parallel radiation (see "monochromatic radiation source”, column 3 lines 34-35 and column 5 lines 16-18), which measures radiation intensity scattered or transmitted by a dispersion sample (see “a means of collecting scattered radiation…a means of…dispersion, of the scattered radiation…”, column 5 lines 9-15) over the a partial or entire length of the sample (see “a sample contained in a tube is irradiated by radiation from a laser along the axis of the tube”, column 5 lines 20-22), simultaneously for multiple positions of the sample (see “simultaneously acquiring at more than one wavelength”, Abstract; see also “simultaneously irradiating”, column 3 lines 33-35).

Regarding claim 13 (as it is best understood), Alsmeyer et al. teaches the limitations of claim 11 as indicated above. Further, Alsmeyer et al. teaches:

The device according to claim 11 wherein radiation sources of different monochromatic wavelengths, whose radiation intensity $I_o(t, r)$ can be varied, are used depending on the sample and measurement tasks (see “diode lasers capable of performing at various incident wavelengths are commercially available”, column 6 lines 45-59).

Regarding claim 14 (as it is best understood), Alsmeyer et al. teaches the limitations of claim 11 as indicated above. Further, Alsmeyer et al. teaches:

The device according to claim 11 wherein a measurement range can be controlled by a thermostat and measurements can be carried out at selectable temperatures both under as well as over room temperature. (see “temperature tunable over a small wavelength range", column 6 lines 17-20; see also “Repetitious sampling and analytical measurements”, column 2 lines 44-46)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-2 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alsmeyer et al. in US Patent 5,638,172, in view of Zhang et al. in US Publication 2005/0275837, Official Notice and Allen in US Patent 5,095,451 (as they are best understood).

A method for an automatic determination of a physical, technical method and/or colloidal chemistry parameter using a measurement device, by a determination of an attenuation of radiated waves during a segregation of a monodisperse or polydisperse dispersion sample (see “measuring physical and analytical properties…is well established in the art”, column 1 lines 23-25; see also Spectrophotometric apparatus, column 1 line 55-56), comprising:

(a) repeatedly determining momentary transmission values $I_T(t, r)$ and/or scattering values $I_s(t, r)$ using waves radiated with intensity values $I_o(t, r)$ (see “a means of collecting scattered radiation…a means of…dispersion, of the scattered radiation…”, column 5 lines 9-15; see also “see "monochromatic radiation source” and "monochromatic radiation source of high intensity”, column 3 lines 34-35 and column 5 lines 16-18; see also “Repetitious sampling and analytical measurements”, column 2 lines 44-46) as a function of a position r within the sample at a time t, for one or more wavelengths over at least a partial section of the sample (see “simultaneously acquiring at more than one wavelength”, Abstract; see also “simultaneously irradiating”, column 3 lines 33-35), simultaneously for multiple positions r (see “a sample contained in a tube is irradiated by radiation from a laser along the axis of the tube”, column 5 lines 20-22);

Further, Alsmeyer et al. teaches a computer for rapid analytical determinations (see computer, column 7 lines 30-31, column 11 lines 3-4 and Fig. 2 (a computer is interpreted to comprise memory for saving or recording data and information and therefore would be capable of repeatedly recording the scattering values)).

Alsmeyer et al. differs from the claimed invention in that it does not explicitly teach during segregation of the sample, characterizing a segregation status from the scattering values $I_s(t, r)$, calculating extinction profiles $E_T(t, r)$ by finding a log of a ratio $I_O(t, r)/ I_T(t, r)$, calculating segregation speeds or calculating a polydisperity.

Zhang et al. teaches an analyte segregation and testing method using Raman spectroscopy comprising the collection of normal Raman spectra from the segregated analyte deposits wherein the spectral data can then analyzed using a variety of numerical techniques intended to enhance the ability to detect a given molecule of interest (i.e. characterizing a segregation status from the scattering values, [0009] and [0013]-[0014]).

Examiner takes official notice that it is well known in the art that extinction profiles are the log of a ratio the radiation leaving the sample, $I_T(t, r)$, and the intensity of the radiation entering the sample, $I_O(t, r)$ (see Wegstedt below), therefore it would have been obvious to one of ordinary skill in the art to calculate the extinction profiles.

Allen teaches a method and apparatus for determining particle size distributions of particular samples by measuring particle concentration as a function of time and position (Abstract and column 2 lines 37-47). Further, Allen teaches from the extinction profiles $E_T(t, r)$ determined at different times and a local adjustment made in time segments, calculating segregation speeds for any constant extinction values (“radiation detector continually generating radiation transmission data” is interpreted to be determined at different times and the local adjustment made in these time segments, column 3 lines 45-56) and from a ratio of the segregation speeds determined for specific

extinction percentiles, calculating a polydispersity index, which is characteristic for the polydispersity of the density or a particle or droplet size (see particle size and D_m, column 3 line 60 - column 4 line 3 and column 4 lines 54-61).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Zhang et al., Official Notice and Allen with Alsmeyer et al. because Zhang et al. teaches a method for separating and detecting the presence of analytes eliminating fluorescence interference from the normal Raman spectra of impure solids ([0008]) and Allen teaches a method of reducing the time required in determining particle size distribution (column 2 lines 37-47), thereby improving the functionality of the system.

Regarding claim 2, Alsmeyer et al., Zhang et al., Official Notice and Allen teach the limitations of claim 1 as indicated above. Further, Allen teaches:

Method according to claim 1, wherein the particle or droplet sizes and their distribution are determined (see determining particle sizes, Abstract, column 1 lines 12-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Zhang et al., Official Notice and Allen with Alsmeyer et al. because Zhang et al. teaches a method for separating and detecting the presence of analytes eliminating fluorescence interference from the normal Raman spectra of impure solids ([0008]) and Allen teaches a method of reducing the time required in determining particle size distribution (column 2 lines 37-47), thereby improving the functionality of the system.

Regarding claim 17, Alsmeyer et al., Zhang et al., Official Notice and Allen teach the limitations of claim 1 as indicated above. Further, Allen teaches:

Method according to claim 1, wherein the physical, technical method and/or colloidal chemistry parameter that is determined is selected from the group consisting of particle size, distribution of particle size, speed distribution, particle flux, hindrance function, index of structural stability and a combination thereof (see particle size distribution, Abstract, column 1 lines 6-7 and column 2 lines 48-59; see also geometric particle size, column 12 lines 8-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Zhang et al., Official Notice and Allen with Alsmeyer et al. because Zhang et al. teaches a method for separating and detecting the presence of analytes eliminating fluorescence interference from the normal Raman spectra of impure solids ([0008]) and Allen teaches a method of reducing the time required in determining particle size distribution (column 2 lines 37-47), thereby improving the functionality of the system.

7. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alsmeyer et al. in US Patent 5,638,172 as applied to claim 11 above, in view of Allen in US Patent 5,095,451.

Regarding claim 15, Alsmeyer et al. teaches the limitations of claim 11 as indicated above. Alsmeyer et al. differs from the claimed invention in that it does not explicitly teach the multi-sample receptacle unit is designed as a rotor.

Allen teaches a method and apparatus for determining particle size distributions of particular samples by measuring particle concentration as a function of time and position (Abstract and column 2 lines 37-47) comprising a multi-sample receptacle unit designed as a rotor (see "is capable of being rotated in order to induce a centrifugal force field, column 2 lines 60-62), and is driven by a motor (see motor, column 8 lines 50-53 and Fig. 2; see also stepper motor, column 12 line 31) with programmable variable and/or constant revolutions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Allen with Alsmeyer et al. because Allen teaches a method of reducing the time required in determining particle size distribution (column 2 lines 37-47), thereby improving the functionality of the system.

Regarding claim 16, Alsmeyer et al. and Allen teach the limitations of claim 15 as indicated above. Further, Allen teaches the multi-sample receptacle is capable of accepting samples placed vertically for segregation in the gravitational field (see tank, horizontally and vertically, column 8 line 65 - column 9 line 10 and Figs. 1 and 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Allen with Alsmeyer et al. because Allen teaches a method of reducing the time required in determining particle size distribution (column 2 lines 37-47), thereby improving the functionality of the system.

8. Claims 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alsmeyer et al. in US Patent 5,638,172, in view of Zhang et al. in US Publication 2005/0275837.

Regarding claim 29, Alsmeyer et al. teaches:

A method for determining a parameter of a sample using a measurement device (see “measuring physical and analytical properties…is well established in the art”, column 1 lines 23-25; see also Spectrophotometric apparatus, column 1 line 55-56), the method comprising:

radiating the sample with waves having intensity values I_o (t, r) (see "monochromatic radiation source” and "monochromatic radiation source of high intensity”, column 3 lines 34-35 and column 5 lines 16-18), at multiple positions r of the sample at a time t (see “a sample contained in a tube is irradiated by radiation from a laser along the axis of the tube”, column 5 lines 20-22);

detecting scattering values I_s(t, r) of the sample (see “a means of collecting scattered radiation…a means of…dispersion, of the scattered radiation…”, column 5 lines 9-15), simultaneously for multiple positions r (see “simultaneously acquiring at more than one wavelength”, Abstract; see also “simultaneously irradiating”, column 3 lines 33-35); and

Alsmeyer et al. differs from the claimed invention in that it does not explicitly teach during segregation of the sample or characterizing a segregation status from the scattering values I_s(t, r).

Zhang et al. teaches an analyte segregation and testing method using Raman spectroscopy comprising the collection of normal Raman spectra from the segregated analyte deposits wherein the spectral data can then analyzed using a variety of numerical techniques intended to enhance the ability to detect a given molecule of interest (i.e. characterizing a segregation status from the scattering values, [0009] and [0013]-[0014]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Zhang et al. with Alsmeyer et al. because Zhang et al. teaches a method for separating and detecting the presence of analytes eliminating fluorescence interference from the normal Raman spectra of impure solids ([0008]), thereby improving the functionality of the system.

Regarding claim 30, Alsmeyer et al. and Zhang et al. teach the limitations of claim 29 as indicated above. Further, Alsmeyer et al. teaches a computer for rapid analytical determinations (see computer, column 7 lines 30-31, column 11 lines 3-4 and Fig. 2 (a computer is interpreted to comprise memory for saving or recording data and information and therefore would be capable of recording the scattering values)).

Regarding claim 31, Alsmeyer et al. and Zhang et al. teach the limitations of claim 29 as indicated above. Further, Alsmeyer et al. teaches wherein the radiation and detecting are repeatedly conducted ("a means of collecting scattered radiation…a means of…dispersion, of the scattered radiation…", column 5 lines 9-15; see also "simultaneously irradiating", column 3 lines 33-35). Further still, Zhang et al. teaches an analyte segregation and testing method using Raman spectroscopy comprising the

collection of normal Raman spectra from the segregated analyte deposits wherein the spectral data can then analyzed using a variety of numerical techniques intended to enhance the ability to detect a given molecule of interest (i.e. characterizing a segregation status from the scattering values, [0009] and [0013]-[0014]). One of ordinary skill in the art would have recognized that the segregation status would need to be characterized repeatedly or after each radiation and detection in order to capture the change in segregation characteristics of the sample.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Zhang et al. with Alsmeyer et al. because Zhang et al. teaches a method for separating and detecting the presence of analytes eliminating fluorescence interference from the normal Raman spectra of impure solids ([0008]), thereby improving the functionality of the system.

Regarding claim 32 (as it is best understood), Alsmeyer et al. and Zhang et al. teach the limitations of claim 29 as indicated above. Further, Alsmeyer et al. teaches:

The method according to claim 29, wherein the step of detecting scattering values $I_s(t, r)$, is conducted over substantially the entire length of the sample (see "a sample contained in a tube is irradiated by radiation from a laser along the axis of the tube", column 5 lines 20-22).

Regarding claim 33, Alsmeyer et al. and Zhang et al. teach the limitations of claim 29 as indicated above. Further, Alsmeyer et al. teaches:

The method according to claim 29, wherein the step of detecting transmission values $I_T(t, r)$ and/or scattering values $I_s(t, r)$, is conducted for multiple samples (see "Repetitious sampling and analytical measurements", column 2 lines 44-46).

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alsmeyer et al. in US Patent 5,638,172 and Zhang et al. in US Publication 2005/0275837 as applied to claim 29 above, and further in view of Official Notice.

Regarding claim 19, Alsmeyer et al. and Zhang et al. teach the limitations of claim 29 as indicated above. Alsmeyer et al. and Zhang et al. differ from the claimed invention in that they do not explicitly teach calculating and extinction profile by finding a log of a ratio of $I_O(t, r)/ I_T(t, r)$.

Examiner takes official notice that it is well known in the art that extinction profiles are the log of a ratio the radiation leaving the sample, $I_T(t, r)$, and the intensity of the radiation entering the sample, $I_O(t, r)$ (see Wegstedt below), therefore it would have been obvious to one of ordinary skill in the art to calculate the extinction profiles.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Zhang et al. with Alsmeyer et al. because Zhang et al. teaches a method for separating and detecting the presence of analytes eliminating fluorescence interference from the normal Raman spectra of impure solids ([0008]), thereby improving the functionality of the system.

Response to Arguments

10. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

Examiner clarification to Applicant regarding 35 U.S.C. 101 rejection:

"Identifying the apparatus" requires that the process claim explicitly recite the particular machine or apparatus, or recite ***a step that involves the use of a particular machine or apparatus***. Although "a measurement device" (a particular machine) is recited in the preamble of the claim, it is not required in the performing of any of the steps themselves therefore is not an explicitly recited structural tie to another statutory class.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wegstedt teaches "Thus, within the measuring technique, it occurs in many cases that an analog electric measuring signal is produced, which is not directly linearly proportional to the value of the measured quantity. In such a case one wishes often to modify this measuring signal, before it is supplied to a recording or indicating instrument, in such a way that the signal supplied to the instrument is directly linearly proportional to the value of the measured quantity, whereby an instrument with a "linear" scale can be used. In other connections it may be desired to obtain a signal which is a predetermined exponential function of an already existing signal. This is the case, for instance, in connection with photometric measurements of the concentration of a given substance in a liquid sample. For such a photometric concentration measurement a beam of radiation of a predetermined wavelength is sent through the sample and the intensity of the radiation leaving the sample, the so called transmission, is measured by means of a radiation sensitive element, as for instance a photo diode.

However, this measurement result, that is the transmission, is not directly linearly proportional to the concentration of the substance in the sample. Instead it is ***the so called extinction, that is the logarithm of the ratio between the intensity of the radiation leaving the sample and the intensity of the radiation entering the sample, which theoretically is linearly proportional to the concentration in the sample***. However, this is true only in the ideal case, and in reality the non-linear relation between the transmission measured by the radiation sensitive element and the concentration in the sample depends on the substance for which the concentration is measured and also on the wavelength being used. Of course, the relation is also effected by any unlinearity of the radiation sensative element being used" (emphasis added, column 1 lines 12-45).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mi'schita' Henson whose telephone number is (571) 270-3944. The examiner can normally be reached on Monday - Thursday 7:30 a.m. - 4:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571) 272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

03/05/2010

/Mi'schita' Henson/
Examiner, Art Unit 2857

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